

Remarks

Claims 1-79 are pending in the application. Claims 1-20, 23-25, 27, 28, 30, 37, and 46-65 stand rejected, and claims 21, 22, 26, 29, 31-36, 38-45, and 66-79 have been withdrawn from consideration. Claims 1, 2, 6, and 28 are amended as above, and claims 3-5 and 66-79 have been canceled. New claims 80-85 has been added. Support for claim 80 can be found on page 13, at line 9. Support for claims 81-83 can be found on page 14, lines 12-15, and in originally filed claim 2. Support for claims 84-85 reciting spray drying as a technique for preparing the microparticles can be found on page 3, lines 21-21. No new matter is added to the Specification by these changes. Applicant respectfully requests reexamination and reconsideration of the case, as amended. Each of the rejections levied in the Office Action is addressed individually below.

I. Rejection under 35 U.S.C. § 112, second paragraph, for indefiniteness. Claim 28 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that “the phrase ‘such as’ renders the claim indefinite because it is unclear whether limitations following the phrase are part of the claimed invention.” Applicant has removed the phrases “such as” in claim 28 to obviate the Examiner’s rejection and submits that the compounds previously following the phrase “such as” are just examples of compounds claimed in the invention and are not limiting.

II. Rejection under 35 U.S.C. § 102(b), as being anticipated by Hoffman *et al.* Claims 1-7, 13, 16, 18-20, 23-25, 27, 28, 30, 37, 46, 57-61, 63, and 64 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Moynihan (U.S. Patent 5,589,189). Examiner states that “Moynihan discloses a process for forming liposome-encapsulated hemoglobin and teaches that the compositions are formed by adding to a neutral lipid, such as dipalmitoylphosphatidylcholine (DPPC), hemoglobin dispersed in sucrose or lactose solution and human serum albumin, and filtering the resulting compositions to produce particles having a median size of 0.09-0.15 microns.” Examiner states that liposomes are microparticles; therefore, the patent teaches microparticle compositions comprising an active agent encapsulated in a matrix comprising a lipid, a protein, and a sugar. Although Moynihan may teach active agents encapsulated in

liposomes, Moynihan does not teach the solid microparticles of the claimed invention. As would be clear to one of skill in the art reading the application, the claimed invention does not include agents encapsulated in liposomes. In contrast, the claimed microparticles are solid unlike liposomes. Applicant has amended independent claims 1, 2, and 6 to include the phrase “solid microparticles”. Applicant submits that the amended claims are not anticipated by Moynihan and respectfully requests that the rejection be removed.

III. Rejection under 35 U.S.C. § 102(e), as being anticipated by Bernstein *et al.* (U.S. Patent 6,423,345). Claims 3, 4, and 5 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Bernstein *et al.* (U.S. Patent 6,423,345). Applicant has canceled claims 3, 4, and 5, thereby obviating this rejection.

IV. Rejection under 35 U.S.C. § 102(e), as being anticipated by Edwards *et al.* (U.S. Patent 5,985,309). Claims 1-7, 13, 18-20, 23-25, 27, 28, 30, 37, 46-59, and 62-64 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Edwards *et al.* (U.S. Patent 5,985,309). In order to remove the ‘309 patent from consideration by the Examiner, Applicant has submitted a Declaration under 37 C.F.R. § 1.132 by Robert S. Langer stating that the claimed invention was not invented by another. Applicant requests that the rejection be removed since the material disclosed in the ‘309 patent was not invented by another and, therefore, does not anticipate the claimed invention in the present application.

V. Rejection under 35 U.S.C. § 103(a), as being unpatentable over Bernstein *et al.* (U.S. Patent 6,423,345) in view of Stricker *et al.* (U.S. Patent 5,633,002). Claims 1, 2, 6, 7, 12-20, 23-25, 27, 28, 30, 37, 46-60, and 62-65 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein *et al.* (U.S. Patent 6,423,345) in view of Stricker *et al.* (U.S. Patent 5,633,002). Examiner states that “Bernstein *et al.* discloses polymer matrices in the form of microparticles, wherein a lipid, preferably a phospholipid and specifically dipalmitoylphosphatidylcholine (DPPC), is integrated into the polymeric matrix.” Examiner goes on to state “that the matrix can be formed of synthetic or natural polymers, including proteins, such as albumin.” However, the claimed invention not only includes a lipid and protein

but also includes a sugar. Examiner states that “Bernstein *et al.* provides the general teachings that the microparticles can be combined with bulking agents, including sugars, such as lactose (See col. 10, lines 6-10), but the patent does not specifically teach that the bulking agent is a matrix component.” The Examiner does point to the fact that “Bernstein *et al.* teaches that pore forming agents can be included” and then point to Stricker *et al.* as teaching that sugars are regularly used as pore forming agents. Applicant submits that these two references have been improperly combined given the further teaching of pore forming agents in Bernstein *et al.*, as volatile salts.

Although Bernstein *et al.* envisions the use of pore forming agents in an amount of between 0.01% and 90% weight to volume during production of the matrices, Bernstein *et al.* does not disclose the use of sugars as pore forming agents and, in fact, teaches away from the use of sugars as pore forming agents. In column 9, lines 23-36, Bernstein *et al.* describes pore forming agents as volatile salts, such as ammonium bicarbonate, ammonium acetate, ammonium chloride, ammonium benzoate, or other lyophilizable salts. At the end of the same paragraph, Bernstein *et al.* states that “after the polymer is precipitated, the hardened microparticles can be frozen and lyophilized to remove any pore forming agents not removed during the microencapsulation process.” Therefore, this paragraph indicates that the pore forming agents envisioned by Bernstein *et al.* are able to be removed by lyophilization thereby inducing the formation of pores in the matrices. Sugars could not be removed from the microparticles by lyophilization; therefore, sugars, even if taught by Stricker *et al.* as pore forming agents, do not fall within the pore forming agents of Bernstein *et al.* Applicant submits that there is no teaching in either of the references to combine the teachings and that in fact there is a teaching in Bernstein *et al.* not to use non-lyophilizable pore forming agents like sugars.

Stricker *et al.* teaches the use of pore forming agents such as lactose in implantable biodegradable systems. An implant is also very different from the microparticles recited in the present claims or described in Bernstein *et al.*; therefore, Applicant submits that given the differences between implants and microparticles, one cannot simply combine the teachings of Bernstein *et al.* and Stricker *et al.* without a specific teaching that pore forming agents such as sugars would work in microparticles as well as in implants.


Applicant respectfully submits that the Examiner has not made a *prima facie* case of obviousness and requests that the rejection, therefore, be removed.

VI. Rejection under 35 U.S.C. § 103(a), as being unpatentable over Bernstein *et al.* (U.S. Patent 6,423,345) in view of Stricker *et al.* (U.S. Patent 5,633,002), and further in view of Goldenheim *et al.* (U.S. Patent 6,534,081). Claims 8-11 and 61 have been rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Bernstein *et al.* in view of Stricker *et al.*, as applied to claims 1, 2, 6, 7, 12-20, 23-25, 27, 28, 30, 37, 46-60, and 62-65 above; and further in view of Goldenheim *et al.* (U.S. Patent 6,534,081). Although Goldenheim *et al.* may teach the preparation of local anesthetics "in matrices of biodegradable controlled release injectable microspheres," the combined teachings of Bernstein *et al.* and Stricker *et al.* as described above lack the teaching of a sugar in the microparticles. Since the references, even when combined, do not teach all the elements of the claimed invention (*e.g.*, sugar in the microparticles), the combined references do not render the claimed invention obvious. Applicant, therefore, requests that the rejection be removed.

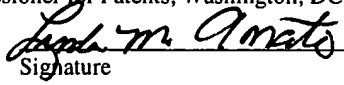
In view of the forgoing amendments and arguments, Applicant respectfully submits that the present case is now in condition for allowance. A Notice to that effect is requested.

Please charge any fees that may be required for the processing of this Response, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,


C. Hunter Baker, M.D., Ph.D.
Registration Number: 46,533

Choate, Hall & Stewart
Exchange Place
53 State Street
Boston, MA 02109
(617) 248-5000
Date: August 21, 2003

Certificate of Mailing	
I certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, DC 20231.	
Date	Signature
August 21, 2003	
Linda M. Amato	
Typed or Printed Name of person signing certificate	